

REMARKS

This paper is filed in response to the Office Action mailed October 7, 2003. Claims 3, 5, 6, 8, 9, 11, 13, 14, 16 and 23 to 26 were pending in the application. Claims 3, 9, 11 and 23 have been amended. Therefore claims 3, 5, 6, 8, 9, 11, 13, 14, 16 and 23 to 26 are now pending in the application and are submitted for reconsideration.

Amendments to the Disclosure:

As discussed with the Examiner Ms Olga Hernandez by telephone on February 6, 2004, the description has been amended to conform to US requirements and to correspond more clearly with the claims. In particular, paragraph numbering has been added and appropriate subheadings have been added. It is believed that the present specification clearly defines that which applicant presently believes to be the invention.

Additional amendments to the specification have been made to conform to U.S. practice, to correct grammatical errors, and to more accurately reflect the scope of the disclosed invention. No new matter has been added. Support for the amendments is based on the text of the specification, the drawings and the claims as originally filed.

Voluntary Amendments to the Claims:

Claim 9 has been amended to correct the dependency from a cancelled base claim.

Claims 3, 11 and 23 have been amended to more clearly define the scope of the present claims. Basis for this amendment is to be found e.g. in paragraphs 1 and 2 of the original description.

Rejection of Claims 3, 5, 6, 8, 9, 11, 13, 14, 16 and 23 to 26:

Claims 3, 5, 6, 8, 9, 11, 13, 14, 16 and 23 to 26 were rejected under 35 U.S.C. § 112, first paragraph as failing to disclose the best mode.

Claims 3, 5, 6, 8, 9, 11, 13, 14, 16 and 23 to 26 were rejected under 35 U.S.C. § 102(b), as being anticipated by applicant's disclosure.

As discussed during the telephone interview with the Examiner, the rejection under section 112 appears to be made on the basis that the person skilled in the art is unable to understand the invention and that there is thus concealment of the best mode. This in turn is

based on the contention that the disclosure does not contain any subject matter disclosed in the claims.

In response to this objection, and as discussed with the Examiner during the telephone interview, the description has been amended to more closely correspond to the subject matter of the claims and more accurately point out what is the invention. In particular the subheading "Brief Summary of the Invention" has been added and a clear summary of what applicant presently believes to be the invention included in this section.

Additionally, applicants submit that there has been no concealment of the best mode as known to the applicants at the date of filing of the present application. To the extent a best mode was known to applicants at that time, this has been included in the specification. No evidence of concealment has been provided to support the best mode rejection and applicant requests withdrawal of this rejection.

Furthermore, applicant believes that the invention is adequately disclosed to the person skilled in the relevant field. The skilled person in the field of rail vehicles presented with the disclosure according to the present application would be aware of how to apply an appropriate algorithm to achieve the desired optimization.

In response to the rejection under 35 U.S.C. § 102(b), applicant has amended the description to clearly point out that general algorithms for optimization problems are known from the prior art. In agreement with the Examiner, reference to such algorithms has been removed from the statement of the invention and detailed description. Applicant thanks the Examiner for her help and cooperation in arriving at such amendments.

As indicated in a previous communication with the Examiner, the present invention takes advantage of the presence of "time reserves" within the existing schedules to improve efficiency. This has become extremely important within the rail industry. Previously train operators were not charged for the actual energy consumed by their vehicle, calculations being made only on a network basis and attributed to the train operators according to line usage. It has been found, that by optimizing the driving mode, energy savings of up to 50% can be made for the same vehicle on the same journey compared to existing driving modes.

Prior wisdom was based on the assumption that coasting was the most efficient form of travel. It was also generally assumed that the tractive force power loss relationship was substantially linear. This is not the case; in fact in modern vehicles with regenerative braking, the characteristic is generally parabolic and symmetrical whereby power loss increases with the square of the tractive force as shown in the drawings. According to claim 1 and claim 11, by determining and then maximising the overall efficiency within the constraints of the

vehicle characteristics and the journey parameters, full benefit can be derived from the differences between actual characteristics and the idealized characteristics previously assumed.

Applicants respectfully submit that nothing in the art of record teaches or suggests the present invention. In particular, the determination of the operating point characteristic of the vehicle and the optimization thereof have not been disclosed or suggested.

In view of the above, Applicants respectfully request withdrawal of the rejections and allowance of claims 3, 5, 6, 8, 9, 11, 13, 14, 16 and 23 to 26 .

Any extension of time that may be deemed necessary to further the prosecution of this application is hereby requested. The Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment, to Deposit Account No. 08-3038, referencing the docket number shown above.

The Examiner is respectfully requested to contact the undersigned by telephone at the number given below in order to resolve any questions.

Respectfully submitted,



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